Subscription Agency
Exploring and Distributing Knowledge Globally

Indian Journal of Obstetrics and Gynaecology
Volume 3 Issue 1, 2023

Correlation Between Menstrual Pattern and Histopathology Reports Among Perimenopausal Women

Pavithra R*, Sreelatha S**, Prashanth Gollar, Noor Ayesha, Bincy, Syeda Sana***
Junior resident Professor*** Senior resident, Assistant professor,*
TP Intern, Junior Resident
Department of OBG, ESIC & PGIMSR, Bangalore, Karnataka
****Corresponding Author***
Email ID: pavithrapavi2712@gmail.com

ABSTRACT

Introduction: *Abnormal uterine bleeding (AUB) is one of the most common compliant seen in women attending gynaecology OPD. AUB describe any symptomatic variation from normal menstruation in terms of frequency, regularity, duration or volume and includes intermenstrual bleeding. Incidence is 10-13%. Can occur in adolescent, reproductive and perimenopausal age groups. In adolescent AUB is due to hormonal imbalance while in reproductive and perimenopausal women it is associated with endometrial pathology. Thus this study helps to evaluate endometrial pattern in AUB.*

Material and methods: *We conducted a retrospective study at ESIC PGIMSR from January 2022 to June 2022 for a duration of 6 months.130 perimenopausal women who attended gynaecological OPD were included in the study. Details regarding age, menstrual pattern and HPE reports were collected from the medical records.*

Results: *Total women included in the study is 130. 83 women (63%) were between the age group of 40-45 years while 47(36%) were between 46-50 years. The clinical presentation was heavy menstrual bleeding among 121(93%) women and intermenstrual bleeding in 9(6.9%). The histological patterns were as follows – proliferative endometrium (22%), secretory endometrium (40.7%), disordered proliferative epithelium (15%), endometrial hyperplasia without atypia (16.1%) and endometrial hyperplasia with atypia (5.3%)*

Conclusion: *Study of endometrial pattern helps to understand the etiology of abnormal uterine bleeding and thus aids appropriate management.*

Key words: *Abnormal uterine bleeding, intermenstrual bleeding, endometrial hyperplasia without atypia, disordered proliferative endometrium, endometrial hyperplasia with atypia.*

INTRODUCTION

Endometrium is the special lining epithelium lining the uterine cavity above the level of internal os. Normal menstrual cycle occurs in the frequency of 21-35 days with the duration of 4-5 days with normal volume of blood loss ranging between 5-80ml, with 30ml blood loss per day. AUB is defined by FIGO as bleeding from the uterine corpus that is abnormal in regularity, volume, frequency or duration and occurs in the absence of pregnancy. Now, the pattern of abnormal uterine bleeding has replaced from earlier terminologies like menorrhagia, metrorragia, oligomenorrhea, hypomemorrhea and polymenorrhea to heavy menstrual bleeding (HMB) and intermenstrual bleeding (IMB). According to NICE guidelines. HMB is the excessive menstrual loss which interfere with woman's physical, social, emotional and material quality of life irrespective of regularity, frequency and duration. IMB is bleeding occurring between normally timed menstrual bleeding. Can be cyclic and predictable as in midcycle ovulational bleeding normally observed in 9% of women or cyclic pre or post menstrual IMB. Acyclic IMB is when IMB is not cyclical or predictable as in endometrial polyp /cervical erosions

Endometrium is supplied by 2 types of arteries-one restricted to basal 1/3rd consisting of small straight and short arteries and other to the superficial 2/3rd consisting of coiled arteries Menstrual cycle is divided into endometrial cycle and ovulatory cycle. Endometrial cycle has 2 phase:

1) Proliferative phase starting from 3rd – 14th day and
2) 2.Secretory phase is fixed duration from 15th day to onset of menstrual cycle.

Ovulatory cycle has 2 phase -Follicular phase and luteal phase 4 stages of menstrual cycle include Menstruation, regeneration, proliferation which represents oestrogenic part of menstrual cycle initiated and controlled by estrogen and secretory phase, controlled by progesterone, however effect of progesterone is obtained only after the endometrium is ripened by estrogen. Menstrual rhythm depends on HPO function whereas amount of blood loss depends upon the uterine condition. PGE2 causes myometrial contraction but vasodilation of the vessels. PGF2α causes vasoconstriction and myometrial contraction. PGI2/prostacyclin causes muscle relaxation and vasodilation. PGE2 and PGF2α is responsible for dysmenorrhea and PGI2 causes menorrhagia

MATERIAL AND METHODS

Study type: Retrospective observational study
Study place: ESIC-PGIMSR, Rajajinagar,Bangalore
Study period: From June 2021 to December 2021. For a duration of 6months
Inclusion criteria:

1) All perimenopausal women who attended gynaecology OPD were included in the study
2) Exclusion criteria:

Post-menopausal

Procedure:

- A total of 130 perimenopausal women who attended gynaecology OPD were included in the study
- Demographic details like age, parity was taken.
- Details regarding menstrual pattern and HPE reports were collected from the medical records
- In the present study considering power of 80% and α error of 5%, minimum sample size was estimated to 152
- Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Categorical data was represented in the form of Frequencies and proportions.

RESULTS

Total women included in the study is 130. 83% were between the age group of 40-45 years while 47% were between 46-50 years.

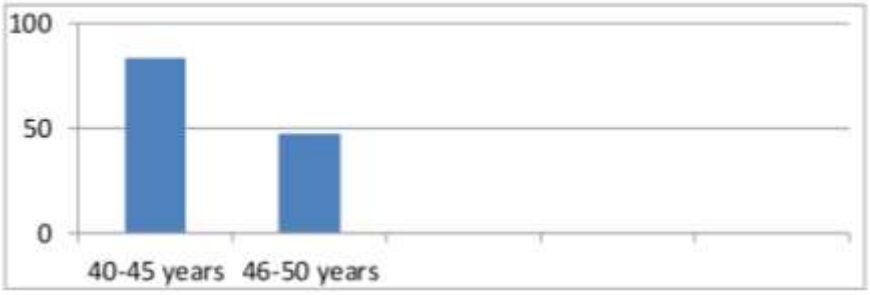

Fig. 1: Distribution of study subjects as per age

Clinical Presentation

- 116 women presented with heavy menstrual bleeding
- 14 women presented with intermenstrual bleeding

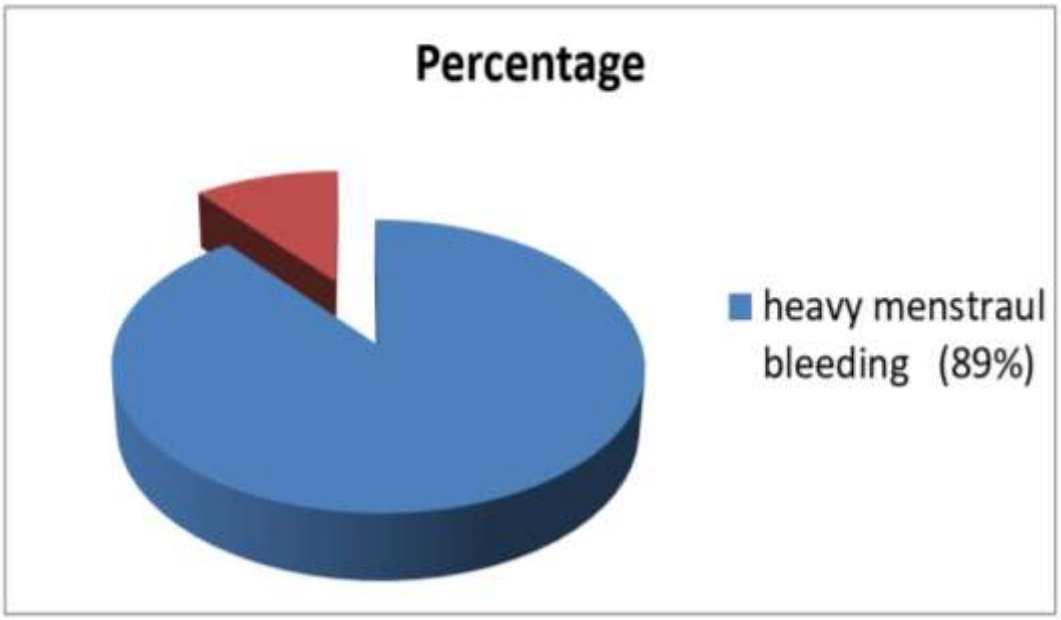

Fig. 2: Distribution of study subjects as per clinical presentation

Correlation between Clinical Diagnosis and Age

Table 1 Correlation between Clinical Diagnosis and Age

	40-45 YEARS	**46-50YEARS**
AUB P	8(9.6%)	2(4.2%)
AUB A	4(4.8%)	7(14.8%)
AUB L	52(62.6%)	11(23.4%)
AUBM	6(7.2%)	12(25.5%)
AUB O	13(15.6%)	15(31.9%)

- Among 40-45 years age group, 62.6% presented with AUB –L, 15.6% with AUB O, 9.6% with AUB P, 7.2% with AUB M and 4% with AUB A
- Among 46-50years age group 31.9% presented with AUB 0, 25.5% with AUB M, 23.4% with AUB L, 14.8 % with AUB A and 4.2% with AUB P

Correlation between Clinical Presentation and Diagnosis

Table 2: Correlation between clinical presentation and diagnosis

	HMB	**IMB**
AUB P	40%(4)	60%(6)
AUB A	64%(7)	36%(4)
AUB L	100%(20)	-
AUB M	61%(11)	39%(7)
AUB O	54%(15)	46%(13)

- Among 89% of HMB patients 40% had histopathological report of secretory epithelium, 31% proliferative epithelium,9% disordered proliferative epithelium,4% with hyperplasia without atypia and 5% with hyperplasia with atypia
- Among 11% of IMB 3.6% had HPE report of proliferative epithelium 3.6%, secretory epithelium3.2%, hyperplasia without atypia 2.2%, hyperplasia with atypia in 1.8% and disordered proliferative epithelium in 0.2%

Endometrial Pattern

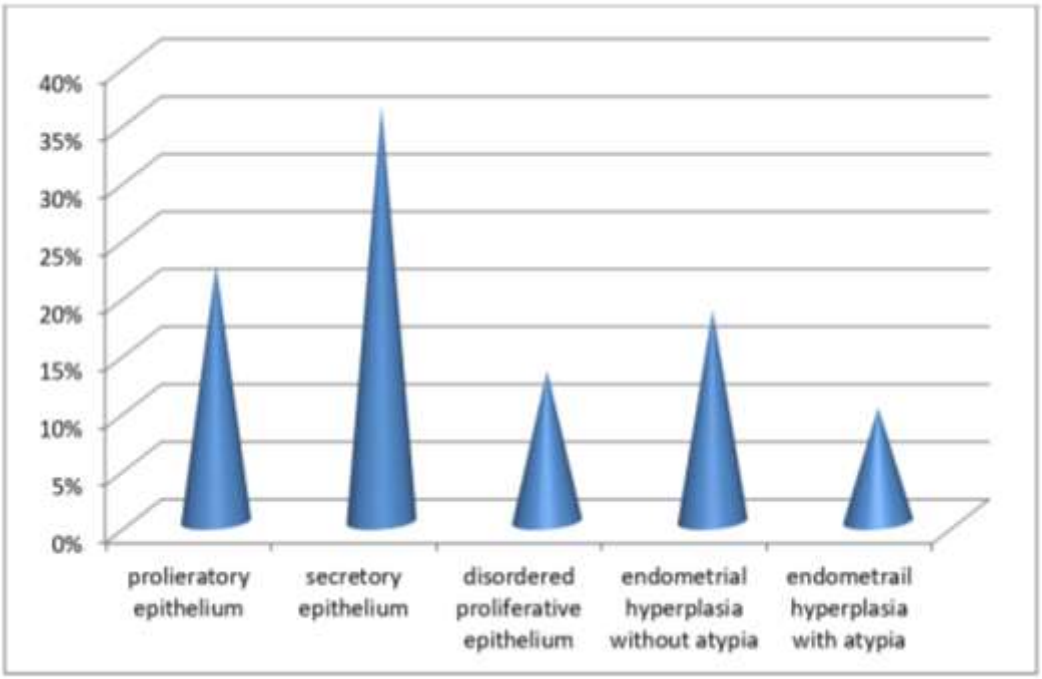

Fig. 3: Distribution of endometrial pattern based on histopathological findings

- Secretory epithelium seen in 36.10% seen in 47 cases
- Proliferative endometrium seen in 22% seen in 29 cases
- Endometrial hyperplasia without atypia seen in 18.4% seen in 24 cases
- Disordered proliferative epithelium seen in 13% seen in 17cases
- Endometrial hyperplasia with atypia 10% seen in 13 cases

Table 3: Correlation between histological diagnosis in relation to age.

	40-45 YEAR	**46-50YEARS**
Proliferative Epithelium	15(51.7%)	14(48.3%)
Secretory Epithelium	19(40.4%)	28(59.6%)
Disordered Proliferative Epithelium	11(64.7%)	6(35.3%)
Endometrial Hyperplasia without Atypia	11(45.8%)	13(54.2%)
Endometrial Hyperplasia with Atypia	1(10%)	12(90%)

Histological Diagnosis in relation to Age

- Among 36.10% secretory epithelium reports 40.4% were among 46-50 years & 59.6% between 40-45 years
- Among 22% proliferative endometrium reports 51.7% were among 40-45 years & 48.3% between 46-50 years
- Among 18.4% endometrial hyperplasia without atypia reports45.8 % were among 46-50 years &54.2 % between 40-45 years
- Among 13% disordered proliferative epithelium reports 64.7% were among 40-45 years & 35.3% between 46-50 years
- Among 7.6% endometrial hyperplasia with atypia reports 10% were among 46-50 years & 90% between 40-45 years

Histological findings in relation to abnormal uterine bleeding

Table 4: Correlation between Histological Findings in relation to Abnormal Uterine Bleeding

	HMB (89%)	IMB (11%)
Proliferative Epithelium	31	3.6
Secretory Epithelium	40	3.2
Disordered Proliferative Epithelium	9	0.2
Endometrial Hyperplasia Without Atypia	4	2.2
Endometrial Hyperplasia with Atypia	5	1.8

- Among 89% of HMB patients 40% had histopathological report of secretory epithelium, 31% proliferative epithelium,9% disordered proliferative epithelium,4% with hyperplasia without atypia, 5% with hyperplasia with atypia
- Among 11% of IMB 3.6% had HPE report of proliferative epithelium 3.6%, secretory epithelium3.2%, hyperplasia without atypia 2.2%, hyperplasia with atypia in 1.8% and disordered proliferative epithelium in 0.2%

DISCUSSION

According to WHO perimenopausal period is defined as period 2-8 years preceding menopause and 1 year after final menses. It is due to decreased ovarian function which results in menstrual irregularities.

According to FIGO - PALM COEIN CLASSIFICATION is used for AUB

Structural causes	**Non-structural causes**
P: polyp	C: coagulopathy
A: adenomyosis	O: ovulatory dysfunction
L: leiomyoma	E: endometrial
M: malignancy & hyperplasia	I: iatrogenic
	N: not otherwise specified

Endometrium is divided into 2 layers -Superficial functional layer and deeper basal layer which lies adjacent to myometrium. Stroma cells of basal layer stain deeply and are packed

closely and island of lymphoid tissue is found here 83% of women were between age group of 40-45 years in present study. According to Indrani et al is 45% [1].

Heavy menstrual bleeding was the most common complaint accounting for 89% and intermenstrual bleeding accounting for 11%. In a study by Babbar K et al it was seen that the most common presentation during perimenopause was menorrhagia (62.1%) [2].

Most common diagnosis for AUB was leiomyoma which accounted for 62.6%. Cornițescu et al in their study revealed that 49.6% of AUB patients had leiomyomata.[3] and 89% presented with HMB reason being interference with myometrial contraction. Mondal reported heavy menstrual bleeding in 44 (56.4%) cases [4]. Polyps are epithelial outgrowths from the surface. In the present study 10. 9.6% were between the age group of 40-45 years which collerated with the study by Madan and Al-Jufairi et al [5]. The mechanisms involved in anovulatory bleeding reflects an abnormal pattern of steroid hormone stimulation which may include estrogen breakthrough, estrogen withdrawal and progestin breakthrough bleeding. AUB O accounted for 31% among 46-50years while 15.6% among 40-45 years. Majumdar and Saha also observed a higher incidence AUB A (53%) in 4th to 5th decade and found heavy menstrual bleeding in 22%, inter menstrual bleeding 9% cases [6]. In our study 11% of AUB A cases were between 45-50 age group with 64% with HMB and 36% with IMB. Proliferative endometrium was seen in 22% which corellated with the study by Bolde SA et al., bleeding in the proliferative phase may be due to anovulatory cycles and bleeding in the secretory phase is due to ovulatory dysfunctional uterine bleeding.[7]Present study shows 15% of disordered proliferative epithelium. According to Yilmaz Z et al showed 9.5%. Endometrial hyperplasia is defined as the overgrowth of endometrial glands and stroma which is characterised by proliferation of glandular pattern with varying degree of architectural and cytological atypia. Endometrial hyperplasia without atypia seen in 16.1%. According to Yilmaz Z et al showed 13.4%. According to Babbar K et al it was found to be 19% [2]. Endometrial hyperplasia with atypia 5.3%. According to Yilmaz Z et al, showed 2.2%. Endometrial hyperplasia is a precursor for endometrial carcinoma and early diagnosis help in management. Associated with risk factors like obesity, hypertension and diabetes. Endometrial carcinoma can occur can a result of excess estrogenic stimulation as in endometrial hyperplasia or de novo with insufficient progesterone level [9].

CONCLUSION

1) Histopathological reporting of endometrial pattern is a safe and effective tool for appropriate diagnosis of AUB
2) Early diagnosis and appropriate line of management can be done in initial stage of malignancy

REFERENCES

1) Indrani M, Rao PS, Nataraj S, Biswas M. An analysis of endometrial bleeding patterns in perimenopausal women. Int J Reprod Contracept Obstet Gynecol 2017;6:2776-83.
2) Babbar K, Jogi S, Arya RC. Clinical pattern and spectrum of endometrial pathologies in perimenopausal and post-menopausal women: Experience in a tertiary care institute. JSAFOMS. 2015;3(1):9-14.
3) Cornitescu FI, Tanase F, Simionescu C, Iliescu D. Clinical, histopathological and therapeutic considerations in non-neoplastic abnormal uterine bleeding in menopause transition. Rom J Morphol Embryol. 2011;52(3):759-65.

4) Aftabbudin M. Diagnostic hysteroscopy-its evaluation. J Obstet Gynecol India. 1992;42(5):699-703.
5) Muzaffar M, Akhtar K, Yamin S, Rehman M, Iqbal W. Menstrual irregularities with excessive blood loss: a clinico-pathological correlation. JPMA. 2005;55(11):486-9.
6) Malik S, Sharma JB, Gulati N, Jain K. A clinico- pathological study of adenomyosis. J Obstet Gynecol India. 1992; 42:234-38.
7) Doraiswami S, Johnson T, Rao S, Rajkumar A, Vijayaraghavan J, Panicker VK. Study of endometrial pathology in abnormal uterine bleeding. J Obstet Gynecol India. 2011;61(4):426.
8) Forae GD, Aligbe JU. Histopathological patterns of endometrial lesions in patients with abnormal uterine bleeding in a cosmopolitan population. J Basic Clini Reprod Sci. 2013;2(2):101-4
9) Bharadwaj Namratra, Saxena K, Maheshwari Veena, Bharadwaj AK, Mehndi Ghazala. Early diagnosis of endometrial carcinoma by uterine aspiration cytology. J Obstet Gynecol India. 2001;51(3):140-2.